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California Wild Flowers
By Theodore Payne

Garden Contest
By Alice M. Clark

Fertilizer Terminology
By Eric E. Eastman

Complications and
Comment
"As you like it?"

Gardens East and West
By Lucia B. Kerr

Book Reviews
By Lester Rowntree

Problems of the Soil
By R. R. McLean

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California Wild Flowers . . .

By THEODORE PAYNE

The first rain in the fall is Nature's call for all these tiny seeds to sprout and grow, and a few days after this first rain, the whole landscape is changed from brown to green. It therefore follows that the best time to sow wild flower seeds is early in the fall before the first rain or during the early part of the rainy season.

Now is the time to sow California Wild Flower Seeds despite unseasonal rains. Nature has already sown her supply in the wilds. In the wild state, as the plants dry up and die, the seeds drop to the ground and lie there in the dust waiting for the rain.

Where vacant ground is used, a very good way is to wait until after the first rain which will start the weeds growing. Then dig, or in large areas, plough the ground, turning the weeds and grass under. Rake or harrow the surface until it is finely pulverized and sow the seeds broadcast. It is not really necessary to rake the seed in; the rain takes care of this. If, however, the rain is long delayed it may be wise to do so in order to keep the birds from taking it. The raking must be done lightly as the seed must not be covered too deeply. In all cases be sure that the ground is worked up and the surface raked or harrowed before the seed is sown. Someone will immediately say that Nature does not do it this way.

That is perfectly true, but Nature is very wasteful. She sows about twenty-five times as much seed per acre as we do, and can afford to waste most of it.

In gardens where artificial watering is practiced, early sowing is very desirable and can be started any time after the middle of September. The germination at this season of the year is particularly good and the little plants grow sturdy and strong becoming well established before the cold weather.

No two seasons are just alike and as everyone knows, the wild flowers are much more abundant some years than others. What is needed for a successful wild flower season, is mild weather and frequent rains spread out over a long period.

We generally get some cold weather from about the middle of December to the middle of January and sometimes later. The plants should be up and well established before this cold snap comes; otherwise, it is better not to sow the seed until this period is over. Where artificial watering is practiced, very good results are often obtained by sowing in February, but where the natural rainfall is relied upon entirely, the results will of course depend upon the number of rains which follow, and the blooming season will naturally be shorter than

when the plants are started in the fall.

The majority of the wild flowers which make such a display in the spring of the year, are annual
(Continued on page 7)

GARDEN PATHS

Garden paths are golden paths

In autumn's fairy weather.

Leaves are whirling in the breeze

And pointing us the way

Tempting us to ramble on

Past fragrant thyme and heather

Showing us the loveliness

This fleeting autumn day.

Winter paths they soon will be

When winter rains come blowing

Blowing down the garden paths

Where flowers soon will fade.

Rain and winds will come and pass

As springtime with its growing

Comes so soon to thrill us all

With colorful parade.

Then the paths will call again

Inviting us to wander

Wander down the winding paths

And hear the song birds sing.

Garden paths are scented paths

And paths where we may ponder

Ponder o'er the beauties of

The garden in the spring.

Garden paths are happy paths

As summer comes a winging

Leading us with dancing feet

Adown each sunny aisle

Brilliant now with color and

With gorgeous blossoms bringing

Joy and peace and sweet content

The seasons to beguile.

—Katherine V. Lewis.

Notes on Garden Contest

By ALICE M. CLARK

It has been my privilege this year to act as chairman of the garden contest of the Floral Association. This responsibility was accepted, not with the idea of being able to find the best gardens in San Diego, but of promoting interest and improvements in home surroundings by means of friendly rivalry. The sportsmanship and understanding of the entrants has been most gratifying.

This comparative judging of gardens is difficult from many angles. In the first place, it is hard to draw the line between sizes. As a result of this year's experience, I would like to propose a re-classification for next year which would not alter the existing status of any of the present winners. The small gardens would come within the confines of 5000 to 10,000 square feet, medium gardens would extend from 10,000 to 20,000 square feet, and large, above 20,000 to 40,000 square feet.

The present classification of small as being up to 7500, medium 7500 to 12,000 and large, above that, threw most of the contestants into the first or last group. The new arrangement would space the entries more evenly and keep about the same range within the classes. Since no allowance is made for the space the house occupies, the medium class would be more apt to have a medium garden, as the house on a lot of that size usually occupies a bit more of the land than one on a very large or very small plot.

Once the size classification is made there are as many types of gardens as there are owners. As no attempt is made to distinguish the formal from the informal, a choice between several equally good styles becomes very difficult. One type may be as dignified and serene as some dependable friend you have, where another may be as gay and charming as the "life-of-the-party" who makes us all happy.

Generally speaking, outside of

small plots, we found the gardens that stood up the best had had the benefit of professional designing sometime in their careers. One of the interesting things I have discovered since taking over this chairmanship is that this expert talent is available at a very nominal cost per hour, so if one has a problem it is real economy to consult a graduate landscape architect, of whom there are several in town, and do things right the first time instead of by the trial and error method. On the other hand, sometimes the owner with a splendid landscape fails to live up to its promise in his selection of annuals or perennials to further the design. If the plan is too rigid, even a perfect scheme repeated from year to year, becomes monotonous and the gardener's interest is lost, and is reflected in a careless feeling throughout the plot. Those who evolve a plan, working it up gradually towards a flexible rather than a fixed goal are more apt to attain a feeling of aliveness in the result.

When one thinks of the difficulties of judging the relative merits of these many different expressions of personalities in gardening, one realizes how right it is that this judging is based on seven separate items each carefully selected to make the sum total of a good garden.

For the benefit of the uninitiated the seven points totaling 100% are as follows:

1. Front area.....	10
2. Plan of garden area.....	20
3. Proper selection of plants to develop the design.....	15
4. Quantity and quality of bloom or use of color.....	15
5. Physical condition of all growth.....	20
6. Neatness and general upkeep.....	10
7. Co-ordination of units, advantage taken of possibilities, etc.....	10
Total.....	100

Our three judges had a broad, unbiased outlook, as well as certain specialties, that made for a well rounded decision. With these judges and these methods of scoring, the personal, and naturally human preferences, were well offset. And, in cases where any of the judges had advised on the garden in question, the chairman did the scoring for that particular entrant. Each judge worked independently, and, while they did review their findings at the end of the day, they did not have access to the spring figures, so they did not know the final results until they were compiled by the chairman.

To one in my position this has been a liberal education and a stimulating contact. I have found most of the entrants have been willing and anxious to profit by suggestions and criticisms which I have tried to pass on to them as I heard them from the judges. This one contest has extended my own interest from its former absorption in masses of color to the study of design as carried out in the variation of pattern in leaves and the outlines of trees and shrubs in their relation to the house and other focal points in the picture. So we should learn to think out our plan before we plant. A suggested motto is "planning before planting."

Gardens as oases of peace and beauty in these troubled times are their own excuse for being. I hope every California Garden reader starts now, looking for and making fine gardens so that the chairman of this contest will be overwhelmed with entrants as excellent as those of this year. They were lovely from so many different aspects. I am only sorry everyone could not have enjoyed them with us. Suggestions for the spring contest are now in order and I hope some discussion or question about them may appear in these columns. Yours for the richer and fuller experience of planned gardens and with thanks for the opportunity of taking part in this interesting competition.

—Alice M. Clark,

Chairman.

October Meeting

At the monthly meeting of the San Diego Floral Association, Mrs. Mary A. Greer, president, welcomed Miss Patterson, instructor, and a body of students from State College who are interested in "Japanese Floral Arrangement," that being the subject of the program talk given by Miss Laura White. The speaker, recently from Japan, having studied the art for three years there, gave the audience a most comprehensive and instructive enlightenment on the subject.

Briefly, she spoke of the appeal of flowers, development of Japanese flower arrangement, history, theory, principles and rules, etc. Ika-bana, the Japanese word for flower arrangements, entered Japan from China with Buddhism—although the Japanese like to credit India with the origin of their flower arrangement. Every arrangement, she said, must have the three principle parts known as Heaven, Man and Earth. Any additional branches or sprays are merely supports, but every school applies different names to these principles. There always must be balance and beauty of line, uneven numbers of branches or flowers, representation of the living plant, a consideration of the blossom as a detail, etc.

Of some personal experiences, she told of the drill and practice of floral arrangement training—how the teacher arranges the subject first. Then the pupil does it over and over—always with the air of meditation, poise and quietness. There were visits at homes of doctors and of attendance at an Imperial Garden party which is given twice a year. Always tea is served and oftentimes pickled petals. At the doctor's home one side of the house disclosed a garden—the wall was removed and a unity of house and garden were as one.

Flowers are a greater factor in the life of the Japanese than any other nation, she said. Every girl studies flower arrangement. Our American girls study music.

Upon entering a Japanese home,
(Continued on page 9)

Fertilizer Terminology . . .

By ERIC E. EASTMAN

One of the greatest difficulties the non-technical horticulturist experiences in connection with the fertilizer problem is that of terminology, for there are sometimes several names for the same compound; and less frequently, several compounds having the same name. The commonest names and their significance are therefore indicated below:

Nitrogenous Fertilizers

Nitrogen: A misnomer in trade parlance. Nitrogen is the element concerned, essential to all life, but at normal temperatures and pressures is an inert gas. The nitrogen content of a fertilizer may be expressed as per cent of nitrogen or as per cent of ammonia. To convert ammonia to nitrogen divide by 1.2.

Nitrates: Part of a nitrogenous compound of salt. All nitrogenous compounds must become nitrates before the nitrogen they contain can be absorbed and utilized by plants. One such fertilizer is "Nitrate of Lime." Nitrates do not occur alone i.e. as such.

Nitric: Refers to nitrate content.

Nitrites: Another portion of a nitrogenous compound, very closely "related" to nitrates and like them do not exist alone as such. One such compound is nitrite of lime, but this is not on the market as fertilizer.

Ammonia: Means several things. In the trade, the nitrogen content of fertilizer is sometimes expressed as per cent of ammonia. The chemical compound ammonia, is a gas which is highly soluble in water. Frequently used interchangeably with the word "nitrogen," though this is not desirable. Ammonia, or ammonium, like nitrates is also part of a compound, such as the fertilizer ammonium sulphate. This is also termed sulphate of ammonia. To convert nitrogen content to ammonia multiply by 1.2.

Urea: A definite organic compound high in nitrogen. Becoming more common as a fertilizer each

year. Several trade names have been concocted for commercial purposes. The label on the container, however, states the urea content.

Blood: A packing house by-product. Blood is high in organic nitrogen and iron.

Cottonseed Meal: Usually the cake remaining after the oil has been pressed from cotton seed. A valuable source of organic nitrogen for fertilization. It also contains phosphorus and potash in significant amounts.

Fish Meal: Also Sardine Meal, a by-product, usually, of the fish industry. A valuable source of organic nitrogen, which also contains phosphorus. Usually too odiferous for floriculture.

Tankage. Also known as Meat Scrap. A packing house by-product containing organic nitrogen, phosphorus and potassium. Like Fish Meal it is usually too odiferous for use near homes.

Phosphorous Fertilizers

Phosphorous: An element which is essential to life.

Phosphate: Like "nitrate," that portion of a fertilizer containing phosphorus, but which does not exist alone. Calcium phosphate is a phosphate fertilizer.

Phosphoric Acid: The amount of phosphorus in a fertilizer is expressed as per cent of phosphoric acid, which is in reality the chemical compound, phosphoric pentoxide. This compound is not marketed as a phosphatic fertilizer, and is hence merely a trade term used to denote phosphorus.

Phosphatic: The adjective of the noun phosphate.

Bone: Steamed bone. A packing house by-product, but now so rare that the term is merely used to denote calcium phosphate or raw rock phosphate, with which the phosphoric content is identical. Low availability and hence not usually satisfactory for floriculture.

Acid Bone: Originally a treated packing house by-product now ex-
(Continued on page 8)

Complications and Comment . . .

By "THOSE MOST CONCERNED"

Last Word

My dear Mr. Hoyt:
 Call this chitter
 But not tattle—
 Call it gossip—
 Call it prattle—
 But whate'er may be its name
 Call it fun, this garden game.

Very truly yours,
 Katherine V. Lewis

Succulents

It is beyond understanding that San Diego, more suited than any other place in the U.S.A. for growing succulents; the place where they reach their greatest perfection (if such a paradox can be) should have so little interest in the Echeverias. In the winter when we dress up most for visitors they are at their very best. The cold merely deepens their lovely tints. Most of them come from beneath the equator and this is blooming time for them as summer is about to begin there. And what flowers they have! Surely no plant in the world has a blooming so fine for the house as these hen and chickens of which there are easily more than 100 varieties. They have been in now for two months and will be in flower all winter. They will last six weeks in the house and are exquisite there in shape and color. For their blossoms alone they are more than desirable for our winter gardens.

Tell me—why not echeverias?
 Neff Bakkers.

Highways

Tell me why the slopes of a highway cut must be trimmed and manicured fit to out-slick our ladies colored finger-nail. After much laborious pick work, the side lies fallow for erosion or precariously supports a flat curtain of mesembryanthemum that but serves to accent the artificial plane. Consider nature and her way of handling the problem.

Might not man aid and abet; lend a hand, so to speak, in bringing about a more naturally artistic setting for these marvelous streaks of concrete the engineers are giving us.

I am looking at one of these cuts—subsoil, hard-packed, inorganic, with no substance to support plant life. I would blow me a hole—many of them—cracking a little, but not enough to weaken the structure for a slide. Let the debris slide to the bottom to truck away. Clean the holes out some and drift topsoil in from above. Let sumac take this ground over—sumac and his ilk, cherry and mahogany and the wild bush poppies with, possibly, Zauschneria at the base.

The plane as well as the line of this cut would soon melt away under a studied, yet naturalistic massing for varying height, texture and incidental color and the plants should serve well and long, having good soil and drainage, with little or no competition.

Now I hope some highway engineer may see this and explain why this will be difficult or impossible to do or that it is being done elsewhere. It has been in my thoughts for quite a while and I would like to have it out of the way.—R.S.H.

Fuchsias

Mr. G. Niederholzer grows fuchsias and this is what he thinks of them:

Nothing sweeter nor completer
 Than the nodding fuchsia flower
 Have I ever found in travels wide
 and far,
 With its leaves so green and bright,
 And its petals pink and white
 And its sepals gaily tipped with
 cinnabar.

He calls attention to the following five new varieties and gives a brief description.

Black Princess—Greatly admired at the Hall of Flowers on Treasure Island. The very darkest purple,

wide open single corolla and red sepals.

Firefly—Distinct because of its almost luminous, vivid red color, calix and corolla of the same tone. Most prolific bloomer, great flower clusters on a strong growing plant.

New Fascination—Superior to the old one; much larger, more brilliant rose pink flowers; very floriferous. A strong plant with stiff branches and fine foliage.

Princessita—An excellent basket variety with white tube and long, gracefully curved sepals, deep rose corolla, a flower of exquisite shape and abundantly blooming.

Pink Balloon—So named for its big pink balloon shaped buds. A very large flower with fluffy white corolla. In spite of the size, the flowers are produced in great numbers.

Most Fuchsias will speak 100 per cent for full shade but will also accommodate themselves to almost anything. Fuchsias are mostly native to tropical America, where they grow naturally in the sun, but the luxuriant growth around them shelters the roots from the heat. There are very few Fuchsias which do not doubly repay the trouble of giving them full shade. Or if they must of necessity accept sun (especially our special California brand) in addition to good mulching, plant in front of them some low growing sheltering shrubs, perhaps one foot in height.

B. H. T.

Sumac

If you have a corner of your yard to which it is difficult to get water, try one of the sumacs, and after a year or two, to allow the roots to penetrate deeply, let it have only what water the seasons bring. Not only will you save yourself much trouble, but you will also save on the water bill. And you will have an attractive green shrub throughout the year. Most large dealers stock the Lemonade Berry at all times; they have the Sugar Berry part of the time, and the Laurel Sumac can be obtained, as a rule, only from those dealers who specialize in native plants.

F. F. G.

Architectural Honors

The American Institute of Architects awards fellowship standing to six of its members, three of whom are of Southern California; our own William Templeton Johnson, Sumner Spaulding of Beverly Hills and Carleton M. Winslow of Los Angeles.

Mr. Johnson has long been known here for his interest and work in civic affairs, having served several years as president of the park board and now that of The Fine Arts Society. All cultural movements ahead have received his close attention and this is especially true as related to his profession where he has steadily fought for forms in architecture that are fitting and distinctive. He is internationally known for his adaptations of the mission style and has many highly recognized examples over the south of California and abroad. San Diego applauds this high honor and looks forward to many happy years of further service towards these high ideals.

Carleton M. Winslow came to San Diego at the time of the first Exposition with its architect, Bertram Goodhue. His influence on the beautiful buildings of that time is felt chiefly by gardeners in the lines of their own home in Balboa Park.

Miracle Workers

Strange things are happening in the field of horticulture. From auxins to hormones we flit lightly, little realizing that here may be one of the most outstanding developments of the century in the field of biology. And now comes the Vitamin B-1 to further plague our jaded appetite and stretch the imagination to near breaking.

H. Britton Logan tells us in the October issue of Better Homes and Gardens, published in Des Moines, how a daffodil grew a stem 42 inches into the air as thick as a man's thumb, and a flower so large that it hid a salad plate; how a red tea rose formed a bud 5 inches long; how a three-inch camellia

(Continued on page 9)

Gardens East and West—Autumn

By LUCIA B. KERR

"East is East and West is West"—The gardener knows not which is best.

When I think of the year round display of gardens in the two sections of the country with which I am acquainted, the area from Philadelphia to Massachusetts, and the southern coastal region of California, it is impossible for me to say that I prefer either one to the other. While I am in the east there is only one time in the year when I want to escape to California where it is warm and the gardens are perennially green and colorful with flowers. That is when winter is passing, the slush is on the ground, and there is still a long time to wait for the appearance of the first shoots of green. When I am living for a year in California there is only one time when I wish to leave the sunshine, the green things, and the flowers. That is when the dahlias and the chrysanthemums and the flurry of blooms on shrubs and vines are but a miniature display in comparison with the vast and splendid autumn color in the east.

There is then an annual invitation to excitement when you want to feel in tune with the gaiety of all out doors—the first frosts which exhilarate, the dry leaves which whirl in the wind and crackle underfoot, and above all, the color! The whole out of doors is a flaring pageant, progressing like the sunset, from the first faint yellows of the poplars and the birches to the deep yellow of the witch hazel or the golden Zelkova; the riot of orange and red in the maples; the rich scarlet oak; the purple of the ash trees and the crimson sassafras. Then too, like the sunset, the colors drop rapidly until there remains only the dark line of evergreens against a cold sky.

This brief and concentrated moment of color which precedes the period of dormancy in the east is symbolic of the differences between gardens east and west. I am not

thinking just of the color, but of what that color means as a key to some of these differences. As the color is most noticeable in the trees in fall, the trees dominate the landscape at all other seasons of the year. Here in California the trees are far less important. The fall season there is short and intense, which is true of all seasons in the east. In California spring is distinct, but all other seasons run into the other with almost imperceptible changes. These seasonal differences in the east restrict greatly the range of plant material types, while in California climatic restrictions are few and a great variety of plants will grow in a limited area. There is never a feeling of sameness between seasons in the gardens of the east—fall, winter, spring, and summer are distinct; but the intensity of each season causes a feeling of sameness between the garden cultivated by man and the uncultivated areas. The absolute opposite is true of California.

The garden pattern of the whole year is comparable to that of the perennial border, planned so differently in these two sections of the country. Here the season is nearly twice what it is in the east, the entire year is compared with about seven months. It is perfectly possible to spot throughout the border plants of each height and color which will bloom during most of the year and be the permanent framework. Then it is a simple matter to fill the rest of the area with the plants which flower for only a month or two.

In the east the maximum season is from March through October, and yet it is almost impossible to find plants which will bloom during that length of time and provide the garden with a continuous background. Every two months the garden pattern kaleidoscopes into a new composition of forms, colors, and textures. In March and April

(Continued on page 9)

Book Reviews

By LESTER ROWNTREE and ROLAND HOYT

We don't know enough about the native plants of our Southern States. (The Southerners don't know enough about our wild plants, either, and they can't give them a summer drought—though most of them will grow without it.) But many of us water our gardens in summer and, without changing our methods, could easily include some native plants of the Southern states in our gardens, especially now that we have simple and inexpensive ways of testing our soils. We are growing, as quite common-places, many plants which have come from climates and which live in soils far less like ours than those of the South.

In the last few years we have had several books on Southern native plants, but it takes a good long while for the contents of most plant books to seep through into actual use by the gardeners, so the results of these volumes are only just beginning to appear among our cultivated plants.

Recently off the press is a book on the "Trees of the South" by Charlotte Hilton Green, and published by the University of North Carolina at Chapel Hill, N. C. (\$2.50).

Some Southern trees are also native to California (some small trees, or large shrubs—of the desert are among these). We have been using others for quite a while in our California gardens, *Liquidamber styraciflua* and some of the Magnolias, for instance. The book is almost entirely given over to native trees, but there is a short chapter on "Three Strangers," the Tree of Heaven (*Ailanthus altissima*), the China-berry Tree (*Melia azedarach*), and the Crape Myrtle (*Lagerstroemia indica*) which in California catalogs is spelled "Crepe Myrtle."

"Trees of the South" is a splendid book for beginners in tree study. Mrs. Green feeds botanical information into her readers in apparently a good delver as well as

small and enticing bites, gently coaxing them to assimilate terms which it seems to be quite the thing to shy at with protests against such dreadfully difficult words. She is strong on the common names. Indeed, my only criticism is that she slighted the scientific ones. Although the complete botanical name appears once on each pair of plates illustrating a species, she drops it entirely from the text, using only the generic name and using that only once, in a heading at the beginning of the discussion of the genus, a discussion which may run for ten pages and take up a number of species. The fact that all species names appear in the index is little help when they do not appear on the pages to which the index refers you and no help at all when the species is not illustrated. For instance, what is the real name of Chinquapin? We assume, by referring from text to index and back again, that is *Castanea pumila*, but we can't prove it.

Many quite different looking and unrelated plants have the same common names, so you can't depend on them for identification, although they are comfortable handles to give the plants after they are identified. But without the scientific names, where are you? The free use of the standardized names in Mrs. Green's book would help tie the many excellent photographs to the text and, especially if italicized, they could be readily seized upon by those who need them and as readily ignored by those who would rather skip scientific terms. When I take this book with me, as I plan to do, on a plant hunting trip through the South, I will, I trust, be able to tell a tree's genus by looking at it; but how shall I know the specific name, which I shall need most?

Mrs. Green, who is also the author of "Birds of the South," lives in Raleigh, North Carolina and is

a keen observer, for besides a great deal of real tree knowledge, a lot of research work in literature and history has gone into her attractive volume.

Lester Rowntree,
Carmel, California

Plants in Tanks

The growing of certain kinds of plants in chemical solutions has been before the public now for months that extend into several years. While its publicity has been such as to attract the passing fancy of the perennial, murcurial "fan," its history reaches back into that of horticulture and (or) chemistry some two hundred years or more. It does appear that this so-called chemiculture has now come of age. At least serious attention is being given it by serious-minded men and states are spending the same kind of money for its furtherance that you and I use for bread and meat and clothing. Los Angeles High schools have its teaching as a part of the curriculum and Prof. D. R. Matlin tells us there are over three thousand members in the Chemiculture Society of America, as of 1938.

In his book, *Growing Plants Without Soil*, Chemical Pub. Co., N.Y., 1939; \$2.00, Prof. Matlin treats a rather involved, technical subject very simply so that almost anyone will get something out of reading it through. Those interested will find particular formulae for desired results and complete instructions on construction and manipulation of tanks, together with notes on related principals of sand-culture. Twenty-two chapters treat of the fundamentals of this new science and an appendix is rich in odds and ends of pertinent data on soil reaction, metal tests, planting calendars, with some not so relevant, such as state flowers. After all and above all, the book is written in Southern California and if it covers a great deal of ground rather hurriedly, the essentials are there and fitted to this climate.

R. S. H.

Announcement

An essay contest, open to all nature lovers and offering cash prizes totaling \$225, is announced by Claremont Colleges, Claremont, Calif. Manuscripts should be of suitable length for magazine publication but should not exceed 3000 words, and must reach the judges before February 1, 1940.

The contest, sponsoring officials state, is part of a project to foster interest in the study of nature and to encourage an appreciation of beauty and other values in nature as a force in noble living. This project, it is explained, has been made possible by an anonymous donor to Claremont Colleges and is known as the John Muir Nature Enterprise.

Three cash prizes are offered in the contest, according to the announcement: first prize, \$100; second, \$75; third, \$50. Each essay, it is stated, should consist of an original study of some subject in nature or about nature and should embody the appreciation of such factors as beauty, strength, form, variation, and other values thus observed. Illustrations, such as drawings and photographs, should be used if possible.

Complete information concerning the contest, the Claremont Colleges announcement states, may be obtained by writing the John Muir Nature Enterprise, Room 100, Harper Hall, Claremont, California.

Wildflowers

(Continued from Page 1)

species and the above remarks refer entirely to this class. The perennials require special treatment and most of them are best sown in seed boxes and the young plants set out when large enough.

A mixture of wild flower seeds is generally preferable to one species, providing it contains the right kinds in the right proportions, because it will produce a display of flowers over a much longer time than when one kind is used. Where a single species is used there is nothing to compare with the Cali-

Problems of the Soil . . .

By R. R. McLEAN, County Agricultural Commissioner

Question: During the last hot spell some of my trees were quite badly burned on the east and north by the hot wind. Should I prune the dead growth out now or should I wait until later?—B. J.

Answer: You do not state what kind of trees you have, but presuming they are citrus, the same general rules apply to wind-burned trees as to those injured by frost. You should wait until the full extent of the injury is apparent before cutting back. This will probably be several months later, or in early spring. When the new growth begins at that time you can prune much more intelligently than you can at this time.

Bougainvillea Pest

Question: A bougainvillea has been eaten by some animal or insect. The canes are partly stripped along one side for a considerable distance, about half of the canes being eaten. I have no idea as to what is doing this. Can you suggest any possible reason for it?

—Mrs. E.

Answer: The only possible culprit that comes to mind is the common pack or wood rat. For some unknown reason they are very fond of bougainvillea canes and have been known to do exactly the damage as outlined by you. Your location as given indicates that you are near brushy canyons or ravines and in these wood rats build their homes. These nests will be found on the ground in brush heaps or in a tangle of bushes, being built partly above ground and partly underneath. The remedy, of course, is to find and destroy these nests and trap the rats themselves. They are wary and much harder to get rid of than are common house rats.

fornia Poppy for brilliancy. A charming color effect can be produced by combining California Poppies with Blue Lupines and Blue Gilias.

Theodore Payne.
Los Angeles.

Control of Slugs

Question: I am having so much trouble with slugs. They come out at night and eat plants in the lath house and around the garden. In the daytime I can find them under flower pots, flower tubs, boards, rubbish, etc. What is the best way to get rid of them? Can I spray the ground with anything that will kill them as they crawl around? —W. M. E.

Answer: An alum spray, prepared by dissolving from a quarter to a half pound of alum in a gallon of hot water and spraying both ground and plants with it after nightfall when the slugs are feeding, will be very effective. It must actually hit the slugs, however. There are dust or flake forms of iron oxide on the market that are also effective against slugs when scattered on the ground or around plants. Fluosilicate or nicodust applied to plants will also kill slugs that feed on them. Occasionally slugs may be trapped by means of boards or wet sacks and those taking shelter there can then be crushed. The free use of dry Bordeaux dust around plants will act as a very good repellent. Chopped carrots rolled in white arsenic, paris green, or similar poison and exposed where slugs will find them, are also very effective. The use of poisons, for obvious reasons should be avoided if possible.

Weed Seeds In Lawn

Question: Could you please tell me the best way to rid soil of weed roots and seed before seeding lawn? Should we seed lawn now or after rains? What is the best seed to use? Ground is medium light and we will fertilize before seeding, using chicken droppings. Any information given to help us have a good lawn will be appreciated.—I. M. G.

Answer: Presuming you are beginning with new soil or soil that has not previously been in lawn, it is advised that you apply your fertilizer at once in order that it

(Continued on page 8)

A LETTER FOR YOU

Dear Friends of California
Gardens:

New York is not far from San Diego, as I will prove if you read further. I attended the Dahlia Show staged by the American Dahlia Society at the Park Central Hotel in New York.

There were so many fine exhibits that the doors were not open to the public until late in the afternoon and the judges would allow no one on the floor until they were through. Somehow I was allowed to wander around by keeping as quiet and as insignificant as possible and who should I see but your own Herman Lodge. I tried to get him to give me some of his impressions of the astonishingly beautiful new dahlias, but he said to tell the folks in San Diego that he will tell about them later.

Although the growers complain of the lack of rain this summer the blossoms seemed very fine and well grown to me. The ballroom of the hotel was far too small to show the flowers properly but very few cities have the grand place that the Floral Association has for exhibits. The largest and finest bloom was a Carl Dal that measured about twenty-two inches across. I saw a photographer taking a picture of it with a tiny button dahlia no bigger than a dime. I liked the star dahlias particularly because of their value for making lovely arrangements. Every garden should have a few clumps of them for cutting.

A new seedling called Manhattan won two medals and a giant red and white bicolor looking like peppermint candy was popular, but the outstanding varieties were the hundreds of fine Carl Dals.

The garden clubs of surrounding states were in charge of the arrangement classes and there were many beautiful exhibits. From my hidden niche I watched the judges as they worked and later had occasion to discuss some of their decisions with them. One charming woman judge was very gracious to me and we spent some time going over the various classes and discussing them. Afterwards I discovered

that she was none other than Dorothy Biddle whose fine book on arrangements is on all arranger enthusiasts book shelf. By the way she has a new book on the market.

Once I heard a lecturer who had just returned from Europe entranced by the love of flowers displayed by even the peasants and people in poorer districts of the cities. He displayed pictures of door yards where sometimes only one Iris was growing. Some day I will write you about the love of flowers I have seen displayed in every section of our own United States, as we travel hither and thither in our little car. Particularly I want to tell you about the tin can gardens I see as I travel through New York slums on the elevated trains.

Last spring it was my good fortune to give a course of lectures on Flower Arrangements with Madame T. Yamamoto of San Francisco. I talked while she made arrangements, but next week I am going to make my bow on Long Island for a club and try to talk and do arrangements myself. I feel rather shaky as there are many fine artists in flower arranging hereabouts. Perhaps a native Californian may be a novelty and I can hoodwink my audiences by being different.

Coralinn B. Tuttle.

Soil Problems

(Continued from page 7)

may break down to some extent before the grass seed is planted.

The next operation would be to irrigate occasionally so as to induce all weed seeds in the soil and in the chicken droppings to germinate so that they may be easily hoed out. Not all weed seeds, or unwanted wild grass seed, will germinate at this time of year, but most of them will and if you plant your grass seed thick enough at this time, most of the summer growing weeds should be choked out when they finally do germinate next year.

Unforunately this does not apply to such summer growing grasses as Bermuda and crab grass, which seem to be able to push up through the thickest stand of lawn grass

possible to secure. There is only one way to keep these two greatest drawbacks to good lawns from new plantings and that is to prick out the seedlings as they germinate. This is not easy to do, but it can be done if you are willing to go to the trouble. We can get along fairly well with Bermuda grass in the lawn but not with crab grass. If the latter once gets a good foothold it will sooner or later ruin the best lawn made.

After a good opportunity has been given for weed seeds already in the soil to germinate, destroy them and plant your seed without regard to winter rains. It is economy in the long run to plant the best seed you can get and sow it thickly. As to the kind of seed, landscape gardeners differ to some extent about mixtures to use as well as proportions, but you cannot go wrong if you go to a reliable seed dealer and use the mixture he advises, based upon local experience.

Fertilizers

(Continued from page 3)

tremely rare. Chemically identical with "acid phosphate" and "Precipitated Bone Meal."

Acid Phosphate: Superphosphate, Rock phosphate, which has been made soluble and available by treatment with sulphuric acid. A satisfactory source of phosphorus for fertilization.

Triple—Superphosphate: A highly concentrated soluble and available phosphatic fertilizer. Usually the cheapest source of phosphorus per unit. A satisfactory fertilizer.

Potash Fertilizers

Potash: A term comparable to "phosphoric acid," being the pentoxide of potassium. The content of potassium in a fertilizer is expressed as per cent of potash.

Potassium: A chemical element essential to life.

Potassium Chloride or Chloride of Potash or Muriate of Potash— A fertilizer containing 60 per cent potash. Soluble and available. Not advocated for use on soils impregnated with white alkali.

Potassium sulphate or sulphate of

potash: A fertilizer containing 48 per cent potash. Soluble and available. The most generally adapted form of potassium fertilizer for San Diego conditions.

Complete Fertilizer

5-10-5: A variable mixture of fertilizing materials whose analyses total five per cent ammonia, ten per cent phosphoric acid and five per cent potash. So-called complete fertilizers contain, fundamentally, only these three ingredients in the order given, though the percentages of each varies according to the purpose to which the manufacturer presumes it to be adapted.

General Terms

Unit: A trade term used to denote twenty pounds of ammonia, phosphoric acid, potash, etc. As one per cent of a ton is twenty pounds, the unit is a convenient factor in computing fertilizer data.

Simple: A material containing only one fertilizing element, e.g. ammonium sulphate is used for its nitrogen content only.

Amendments

Lime: The chemical compounds of calcium used in agriculture. Air slacked lime or ground limestone. The carbonate of lime. The former is more finely divided and generally a more desirably form to use. Sometimes "opens up" heavy or adobe soils.

Burnt Lime: Calcium oxide. Too active or "hot" for most horticultural purposes. Used as a disinfectant, etc. Upon standing ultimately changes to air slaked form.

Gypsum or Land Plaster: Calcium sulphate. Action much less than that of the other forms of agricultural lime. Valuable in making composts. Also used on "black alkali" soils.

Sulphur: Flowers of Sulphur. An element essential to life. "Inoculated Sulphur" believed to have no advantage over common or agricultural sulphur in San Diego County. Used on "black alkali" soils. Sometimes "opens up" heavy or adobe soils.

Peat, Peat Moss, Peat Humus. A natural product. Should be purchased on basis of organic matter only. Acts as a sponge in the soil.

October Meeting

(Continued from Page 3)

the guest shows proper etiquette by turning to the floral arrangement, meditates upon its composition and then greets his host, complimenting him upon its merits.

Among the best known native plants, Miss White mentioned peach, plum, cherry; wisteria 200 years old with racemes as long as her cane, wild azaleas covering mountain sides and hanging on trees, the maple leaf which thousands of school children gather; camelia, peony, lotus, narcissus, chrysanthemum, magnolia and bamboo.

Miss White displayed several proper receptacles containing proper Japanese floral arrangements of different types which were placed on a long table. Each arrangement was explained by her.

Mrs. John Bakkers exhibited an unusual plant from Costa Rica with blossoms of the genus *Lilium*, related to the *Amaryllis*, and grown in her Gardens at Encanto—also samples of a variegated wax plant.

Mr. Dewey Kelley announced a Rose Show to be given by the Rose society in the Fine Arts gallery, the week after Thanksgiving.

The meeting was concluded with particular announcements by Mrs. Greer of the coming Chrysanthemum show, November 4th and 5th, at which there will be a Japanese Tea. It will be held in the Floral building, Balboa Park. The speaker for the November meeting will be Mrs. Larson of Carlsbad, who is a well known authority on lilies—her subject will be "Lilies."

G. M. G.

Miracle Worker

(Continued from Page 5)

cutting was rooted and grown in a 14-inch shrub in 11 months; how—but this becomes monotonous—read it yourself. You, as a gardener, will have more difficulty mentally with a Crimson Lake Bougainvillea that had all earth removed from its roots which were then left exposed to the air 15 minutes; then, when treated, grew six inches in two weeks as against a check plant set

out in the normal manner which lost most of its leaves and 14 inches of its growth. My thinking staggers a little when he tells of a flaming-eucalypt, *Eucalyptus fici-folia*, transplanted bare-root and going on.

Groggy as I am, it must be accepted for the authority is none other than the California Institute of Technology which wants to know what results amateurs will have. This Vitamin is already on the market and advertised by seed houses. It is suggested that you write the editor, Better Homes and Gardening, 6510 Meredith Bldg., Des Moines, Ia., for recording charts for results that may be forwarded to the Institute.

R. S. H.

Gardens East and West

(Continued from Page 5)

the flowers are all in the foreground, furnished by the bulbs and the carpet bedding plants, for nothing tall enough for the background is yet in bloom. In May and June the color creeps up and back in the border with the first of the tall flowers. Others appear in July and August. Then comes the period before the frost with a small scale prevue of the fall color in the dahlias and chrysanthemums with spots of cool color in the asters. It takes many frosts to produce the full riot of color in the trees and shrubs and to eradicate all trace of color in the garden, but eventually the only beauty is the man-made lines outlined and accentuated with heavy evergreen masses or the delicate structural lines of trees and shrubs.

—Lucia B. Kerr.

Ed. Note: The freshness and deep feeling for seasonal change in the garden and landscape as found in this little essay will be exhilarating to those who have come from the east and informative to those who always have lived here. Miss Kerr is in training for the profession of landscape architecture and from time to time will bring to these pages pertinent observations of a comparative nature, burnished and vivified by the view-point of youth.

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